Administrative Assistant to the Selectmen
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To: Selectmen
From: Stu
Re: Recycling Analysis
Date: February 11, 2009

Dick asked a couple of meetings ago if it was beneficial to continue to recycle. I did a little analysis based on the figures of the material we actually recycle, the revenues generated, and the costs associated with that program. These figures are from calendar year 2007, because I don't have the totals yet from 2008, and probably won't have them for a few more months.

Let me paste the spreadsheet I did up, and then explain each category.

Town of Lamoine - Recycling Analysis
Calendar Year 2007

Tons Recycled

Cardboard	208.9775
Other	72.6365
Total Tons	281.614

Revenues	$6,235.60

Expenses

MRRA	$100.00
Transportation	$14,783.54
Total Costs	$14,883.54

Net Costs	$8,647.94

Cost/Ton	$30.71

Avoided Costs	$12,672.63

Benefit/Cost	$4,024.69

Tons Recycled – The Lamoine Transfer station actively collects and ships cardboard, newspaper/magazines, tin cans, glass and #2 plastics, as well as white office paper. The tonnage is taken from the 2007 State Planning Office recycling report that was prepared last year both from actual shipment figures on everything except cardboard and office paper. Our cardboard is co-mingled with other cardboard and taken by Pine Tree Waste with no revenue. Same with office paper.

Revenues – The revenue figures are from receipts from the Maine Resource Recovery Association which processes and sells our material. This is net of any processing fee. It should be noted that revenues at this time are significantly lower than 2007.

Expenses – We have two recycling expenses. An annual $100 membership to MRRA keeps our goods in the sales loop. Transportation is to Pine Tree Waste, and includes the rental of the 4 10-yard dumpsters for Cardboard recycling. We also rent and transport a pair of 25-yard roll-off dumpsters for the other materials sold through MRRA.

Net Costs – The net cost is the result of the total expenses minus the revenues

Cost/Ton – This is a result of the net cost divided by the number of tons recycled

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Avoided Costs – This is a result of the number of tons recycled multiplied by $45 (the estimated per ton cost at PERC)

Benefit/Cost – This is a result of the avoided cost minus the net cost.

Conclusions

Based on the 2007 figures, it is still to the town's economic benefit to recycle the items that we do. The avoided costs do not include additional storage capacity that would be needed if we did not recycle what we do – likely at least two dumpsters per week. Nor does it take into account any savings on transportation/dumpster rental should the cardboard and roll-off dumpsters be eliminated.

An environmental analysis is not objectively possible – translation of dollars and cents into a political position just doesn't work. However, there was a well written article in the Maine Townsman in January that addresses that issue. I've pasted it below:

Why We Recycle

(from ***Maine Townsman***, January 2009)
By Victor Horton and John Albertini of Maine Resource Recovery Association

The recent panic in the financial markets and the lack of consumer confidence that has led to a significant downturn in the overall national and global economies has also taken a toll on recycling. Markets for traditional recyclables (paper, plastics and metals) nose-dived this fall, mostly over a six-week time span. Newspaper went from $130 in October '08 to $30 in December '08. Milk jugs were paying close to $900/ton in September '08 and appear to have recently leveled off at $260 per ton (a 346% drop). Cardboard has gone from a high of $140/ton in March '08 to $25 in December '08.

Recent articles have appeared in the press about the poor market conditions and freefalling prices being paid for recyclables. Some of these articles have highlighted people who question the cost of recycling and suggest that municipalities and others should abandon their recycling programs. Our advice…don't panic and don't abandon your recycling programs!

As a few articles have pointed out, recyclable markets have been down before and have always returned to new highs. The past decade or so has seen continually increasing prices paid for recyclables as well as many new people and businesses entering the field of recycling. These new "players" have not witnessed the cyclical nature of recycling markets that those of us who have been in the business for several decades have observed. Before the growth in the value of recyclables seen during the last decade, there were frequent times when prices were low and municipalities and businesses had difficulty getting anyone to take their products, let alone pay for them.

As the graph accompanying this article shows, the amount paid for cardboard has fluctuated dramatically over the past 15 years. The average price paid for baled cardboard between 1994 and 2009 was $74/ton.

Recycling makes sense, even in these tenuous market conditions. It decreases consumption of natural resources and energy, creates less pollution, and provides a cost savings over disposal even in poor markets. For all of these reasons, Maine public and private sector organizations have been investing in

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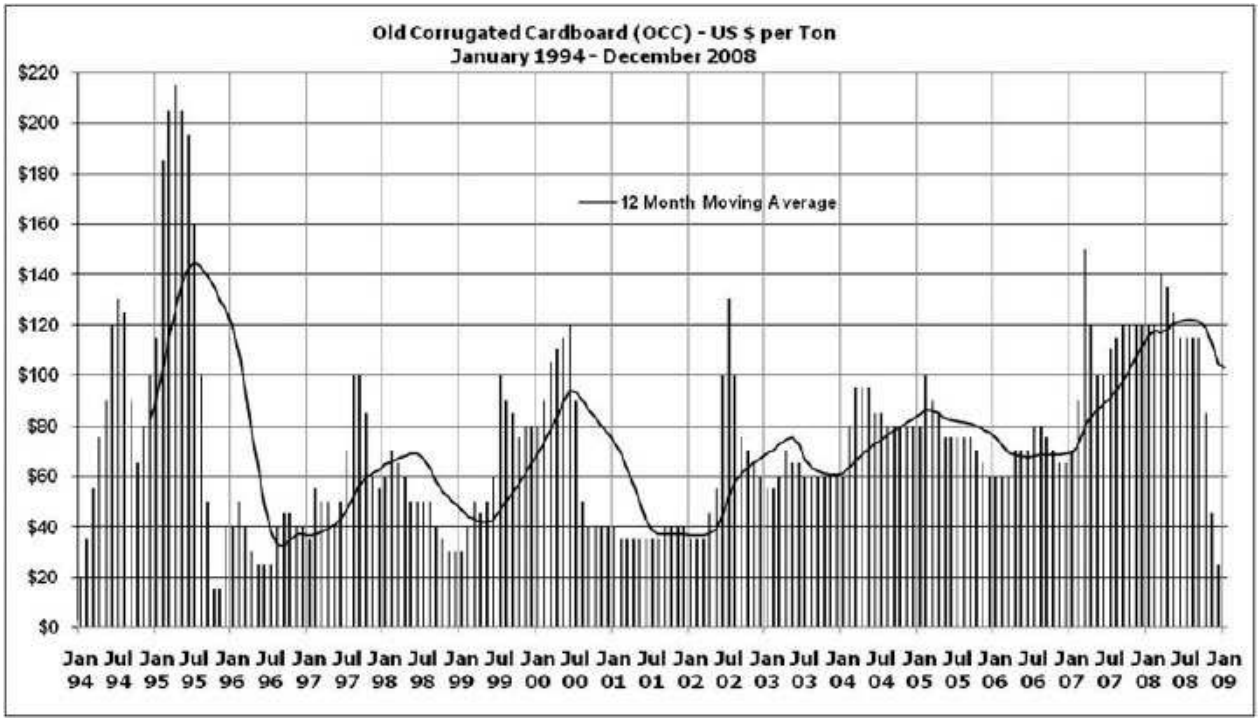
recycling infrastructure for more than three decades. Keeping recycling programs active makes the best use of this infrastructure and supports the educational effort that has gone into encouraging the public to recycle. That way, when prices rebound, municipalities will be prepared to not only recycle for these reasons, but also “profit” from the improved prices.

A review of a few key points in recycling may be helpful.

• Recyclables - newsprint, corrugated cardboard, office paper, mixed paper, plastics, scrap iron and various metals, to name a few - are essentially raw materials that are used in various manufacturing processes. They are used to make new products similar to their original form. For example, used cardboard is made into new boxes at various mills in Eastern Canada and the United States. Linerboard (the outside of the box) and medium (the inside of the box) are both made from paper generated in Maine. Huhtamaki Food Service makes drink trays in Waterville. Katahdin Paper produces paper in East Millinocket used in telephone directories. Plastic milk jugs and detergent bottles are used in Pennsylvania to manufacture such items as Tyvek envelopes and motor oil containers, and scrap metal is used for new appliances, car parts, and rebar for concrete.



• When the economy is good, manufacturing increases. All raw materials, including recyclables that are a direct substitute for raw materials obtained from nature (remember that fact), are in high demand when the economy is good and manufacturing plants are humming along, whether those plants are here or overseas. Prices are high. But when consumer demand slows down and manufacturers have to cut back or close their factories, demand (and price paid) for the raw materials obviously decreases. Take the price paid for milk jugs and other plastic containers; these prices are directly affected by the manufacturing cost of making virgin plastics, a process that mostly uses natural gas. Natural gas prices have fallen and so have recycled plastic prices. Hence, the price of recyclables mirrors the

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prices of other commodities. If readers have been following the economic trends, they know that over the past year, commodity prices reached all time highs (a bubble in economic lingo). Commodity prices fell rapidly this fall as a result of the worldwide economic downturn. The value of recyclables was not exempt from this downturn in commodity prices.

• Recycling has many advantages over throwing all of these “raw materials” into the solid waste stream for incineration or landfilling. It saves valuable natural resources – the raw materials that recyclables replace. Recycling generally saves energy, thereby further conserving resources and reducing greenhouse gases. Recycling conserves valuable landfill space. Recycling reduces solid waste quantities and therefore tipping fees for trash to be burned or buried.

• Manufacturers use various natural resources whether they are petroleum (for plastics), iron ore (for steel), or trees (for paper) to make the products that we buy every day and the packaging that they come in. Some of the things we buy, cereal boxes for instance, are made from paper that we recycled last month. We buy a newspaper today, read it and recycle it and next month part of it may appear in a drink tray that we get at McDonald’s. These products and packaging eventually end up as unwanted items but they have value. Recycling those items provides a substitute for the raw materials. Conservation of the earth’s resources is becoming a higher priority as concern grows over the availability of these resources for future generations.

• Research has shown that recycling products saves both energy and in most cases water consumption. Reducing energy consumption is an increasingly important goal in order to reduce our dependence on petroleum fuels and to reduce greenhouse gas emissions and help control global warming. Reducing water consumption for manufacturing means that water will be available for drinking, wildlife habitat and agricultural production. It also means less water pollution.

• In response to the public outcry at the development of new solid waste landfills in the late 1980s, Maine adopted a solid waste hierarchy encouraging reduction, reuse and recycling over incineration and landfilling. Recycling reduces our dependence on costly disposal processes, reduces the need for new landfills and incinerators, and reduces the potential for environmental harm from these facilities.

• Over the years, people in the solid waste field have considered recycling as a positive investment, not because of high prices paid for the recyclables but because recycling is a viable economic alternative to landfill disposal and incineration.

Victor Horton and John Albertini work for the Maine Resource Recovery Association.